

### **REMARKS**

In the Office Action, claims 1-14 were rejected. All claims are believed to be allowable in their current form, and their reconsideration and allowance are requested.

#### **Claim Analysis**

On page 2 of the Office Action, the Examiner indicated that wording contained in independent claims 1 and 7 would not be given patentable weight. In particular, the Examiner indicated that the terms “to allow a flow of a fluid from the upper channels through the lower channels” would not be given patentable weight because the claims are directed toward an apparatus.

Applicant hereby objects and contests this claim interpretation. While claims 1 and 7 are directed to a cooling apparatus for fuel cell components, and to a fuel cell assembly, respectively, the recitation identified by the Examiner is prefaced with the term “configured.” It is clear that the terminology of the claim requires that the recited base plate be physically configured to permit the fluid flow as specified in this passage. Accordingly, if it is the Examiner’s position that the passage is merely descriptive or is a method step, this interpretation is patentably incorrect. Rather, the passage relates to a physical configuration of the base plate, and should be considered fully, in combination with the other recitations of the claim as a whole, in patentability determinations.

Accordingly, Applicant respectfully requests that the claim analysis follow the explicit wording of the claims.

#### **Rejections Under 35 U.S.C. § 112**

The Examiner rejected claims 1-14, and particularly referred to claims 1 and 7, under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. Specifically, the Examiner indicated that the recitations of claims 1 and 7

indicating that the cooling apparatus is not configured to be a fuel cell electrode is not supported by the specification. Applicant respectfully disagrees.

The Examiner is reminded that it is up to the Examiner to establish a *prima facie* case by representing by a preponderance of evidence why a person skilled in the art would not recognize in the Applicant's disclosure a description of the invention defined by the claims. *See e.g.*, M.P.E.P. § 2163.04. The Examiner is also reminded that an applicant may show possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams and so-forth. *See, id.*, § 2163. In the present case, the recitations relating to the fact that the cooling apparatus is not configured to be a fuel cell electrode is clearly shown in the diagrams and referred to throughout the specification. In particular, referring specifically to Figure 1 and the corresponding text, the cooling apparatus is shown identified and described by reference numeral 100. The cooling apparatus has a base plate 110 referred to in the claims, along with an upper section 120 and a lower section 130. Ribs 140 and 150 form serpentine channels 160 and 170. On the contrary, the electrodes of the fuel cell, as would be clearly apparent to those skilled in the art, are constituted by the cathode 200 and the anode 220. An electrolyte 210 is disposed between the cathode and the anode. Thus, elements 200 and 220 form the electrodes of the fuel cell, while the cooling apparatus 100 is clearly *not* one of those two electrodes.

Accordingly, the recitation identified by the Examiner in claims 1 and 7 is believed to be clearly supported by the specification in such a manner as to satisfy the requirements of 35 U.S.C. § 112, first paragraph. At the very least, the Examiner has entirely failed to establish a *prima facie* case that the Applicant was not in possession of the invention at the time the application was filed. Accordingly, it is requested that the rejection under 35 U.S.C. § 112 be removed.

**Rejections Under 35 U.S.C. § 102 and 35 U.S.C. § 103**

In the Final Office Action, the Examiner simply renewed the rejections previously made, rejecting claims 1, 2, 5, 7-9 and 13 under 35 U.S.C. § 102(e) as anticipated by Nelson (U.S. Patent No. 6,689,500). The Examiner also rejected certain of the dependent claims in view of Nelson combined with other secondary references. Because these rejections have not changed, and because the claims have not been amended by the present response, Applicant respectfully renews the remarks made in response to the previous, non-final Office Action. Those remarks are hereby incorporated into the present response by reference, and based upon such arguments, Applicant respectfully requests reconsideration and withdrawal of the rejections.

**Rebuttal of Examiner's Response to Arguments**

In response to the arguments previously submitted by the Applicant, the Examiner proceeded with a lengthy analysis beginning on page 7 of the Final Office Action. Essentially, as understood, the Examiner argues against the distinction between the invention and Nelson that resides in the fact that the cooling apparatus of the present invention is not an electrode of the fuel cell. The analysis advanced by the Examiner is clearly wrong.

In passing, Applicant will simply note the Examiner's observation that "it appears that Applicant does not understand the general workings of a fuel cell." Final Office Action, page 8. Applicant does not deem this statement either in conformance with the normal protocol utilized by the Office in official communications or worthy of reply.

As regards the underlying analysis by the Examiner, the Examiner would understand Nelson as disclosing a membrane electrode assembly (MEA) 18 which would include electrodes of the fuel cell. The Examiner would interpret the anode cooler plate 16 and the cathode cooler plate 20 as not including or forming these electrodes. These elements are most clearly illustrated in Figure 1 of Nelson.

Applicant notes firstly that Nelson clearly contains an error in language. The membrane electrode assembly 18, which is referred to as such in column 4, lines 26 and 51 of Nelson, is more properly referred to as a membrane electrolyte assembly, as referred to in column 5 of the reference. Be this as it may, the MEA 18 is not and does not contain an electrode.

One skilled in the art would clearly understand the term "electrode" to mean an electrical component which serves to conduct electric charge or current. The MEA 18 of Nelson is not such a component. While MEA 18 facilitates the flow of electrons, while preventing the flow of protons, it is the anode cooler plate 16 and the cathode cooler plate 20 which serve as the electrodes in the arrangement. Nelson is quite clear on this point, particularly in a passage from column 5 which reads as follows:

The excess of electrons on the anode cooler plate 16 cause it to be negatively charged, and the excess protons on the cathode cooler plate 20 cause the cathode cooler plate 20 to be positively charged. Thus a potential difference is generated between the positively charged cathode cooler plate 20 and the anode cooler plate 16. Nelson, column 5, lines 20-26.

Clearly, it is the anode cooler plate 16 and the cathode cooler plate 20 that constitute the electrodes of the fuel cell taught by Nelson. While the MEA 18 is a part of that structure, it is not and does not contain the electrodes.

In summary, Nelson discloses and teaches a structure in which cooling structures, including cooling channels, are formed in the actual anode and cathode of the fuel cell. Nelson cannot, therefore, anticipate the independent claims of the present application, as properly interpreted. This being the case, and because the secondary references do nothing to obviate this deficiency of Nelson, the dependent claims are believed to be

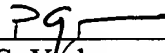
equally patentable both by virtue of the subject matter they separately recite as well as for their dependency from an allowable base claims.

**Conclusion**

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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